



## KEPLER'S HERITAGE IN THE SPACE AGE

International Conference

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(400<sup>th</sup> anniversary of the publication of Kepler's *Astronomia Nova*)

Johannes Kepler came to Prague as mathematician influenced by Copernicus' theory and participated in Tycho Brahe's group in the treatment of Brahe's very precise measurements of Mars orbit. The tolerant social environment in Rudolfin Prague enabled him to carry out intensely his scientific activities in ideologically broken Europe at the beginning of the 17th century. In the years 1600 – 1609, Kepler worked in Prague on his magnum opus – *Astronomia Nova*. At the end of 1608, The Emperor provided his last financial support and in the spring of 1609 the Kepler's tract was published and prepared for distribution at the Frankfurt spring book fair. The work comprised derivation and formulation of the first two laws of planetary motion in the Solar System. Kepler's work *Harmonices Mundi*, comprising his third law, was published in Linz ten years later.

Kepler's results completed the Copernicus' revolution in astronomy, they made fundamentals of astronomy more precise and became starting point of a new development phase of human knowledge concerning whole range of disciplines, as well as the philosophical view of the world.

Formulation of Kepler's laws meant a final breakthrough into the scholastic Aristotelian physics and philosophy. They form not only sources of modern astronomy but also impulses of development of mechanics and its mathematical apparatus. Analytic geometry, differential and integral calculi found here their stimuli, leading eventually to theoretical solution of various technical problems. It was the time of Kepler's contemporaries – Galileo, Bruno, Brahe, Hagecius – but also of those who were inspired by Kepler's results – Descartes, Fermat, Desargues, Pascal,

Torricelli, Harvey, Newton, Bernoullis, Huygens, Bacon, and many others.

With awareness of these historical events, National Technical Museum Prague decided to use genius loci for organizing International Conference in Prague in August 2009, in collaboration with the Charles University in Prague, The Czech Technical University, Academy of Sciences of the Czech Republic (ASCR), Council of the Scientific Societies of the Czech Republic, Astronomical Institute of the ASCR, Institute of Physics of the ASCR, Institute of Geophysics of the ASCR, Institute of Philosophy of the ASCR, Faculty of Mathematics and Physics of the Charles University, Institute of Astronomy of the Charles University, Department of Theoretical Physics and Astrophysics of the Masaryk University in Brno, Czech Astronomical Society, Society for the History of Sciences and Technology, Štefánik Observatory in Prague, Observatory Úpice, and Observatory and Planetarium in České Budějovice.

Conference fits well into the project of the International Year of Astronomy, represents contribution of the Czech scientific community and follows the International Astronomical Congress, taking place in Rio de Janeiro in the first half of August 2009. Phenomenon of the scientific revolution of the 17th century still stays in the centre of attention of historians of science and philosophers. The Conference is aimed to gather the latest knowledge on scientific, cultural and social conditions of the origin of Kepler's laws and on the influence of this development stage of science on further development of the scientific and philosophical thinking.

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e-mail kepler@ntm.cz <http://www.ntm.cz/kepler2009>

Dear colleagues, we approach you with the preliminary invitation and ask you to inform us about your intention to participate in the Conference and about the subject of your presentation. We would also appreciate it, if you could help us by disseminating announcement about the Conference to other specialists. Please send your reply to the e-mail address [kepler@ntm.cz](mailto:kepler@ntm.cz).

Further information can be found on [www.ntm.cz/kepler2009](http://www.ntm.cz/kepler2009).

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### Date and Place:

August 24 - 27, 2009

National Technical Museum Prague and possibly some institutions connected with the Kepler's activities in Prague

### Conference organizer:

National Technical Museum Prague

### Conference Co-Organizers:

Czech Astronomical Society

Society for the History of Sciences and Technology

### Organizing Committee:

RNDr. Jiří Grygar, CSc., Committee President, Institute of Physics of the ASCR, Prague

Doc. RNDr. Petr Hadrava, DrSc., Astronomical Institute of the ASCR, Ondřejov

Mgr. Horymír Kubíček, Director General, National Technical Museum, Prague

Ing. Zdeněk Rásl, Deputy Director for Collections Creation, National Technical Museum, Prague

Ing. Antonín Švejda, Head of the Exact Sciences and Geodesy Section, National Technical Museum, Prague

Doc. RNDr. Martin Šolc, CSc., Astronomical Institute, Charles University, Prague

PhDr. Daniel Kamas, Head of the Presentations and Public Relations Department, National Technical Museum, Prague

Mgr. Pavel Najser, Observatory and Planetarium of the City of Prague, Prague

Ing. Jana Tichá, Observatory and Planetarium České Budějovice and Klet' Observatory

PhDr. Miloš Hořejš, Head of the Science and Research Department, National Technical Museum, Prague

RNDr. Ivana Lorencová, Head of the History of Science and Technology Section, National Technical Museum, Prague

Mgr. Eva Šmídová, The Czech Technical University, Prague

RNDr. František Blahák, CSc., Observatory Úpice

Pavel Suchan, Astronomical Institute of the ASCR, Ondřejov

Mgr. Jan Janík, PhD., Institute of Theoretical Physics and Astrophysics, Faculty of Science, Masaryk University, Brno

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### Scientific Advisory Board:

Dr. Volker Bialas, Kepler Kommission, Munich, Germany – Chairman of the Advisory Board

Prof. Dr. Franz Pichler, Johannes Kepler University, Linz, Austria

Prof. Jan Šebestík, CNRS, Paris, France

Dr. Suzanne Debarbat, Observatoire de Paris, Paris, France

Prof. Owen Gingerich, Harvard - Smithsonian Center for Astrophysics, Cambridge, USA

Dr. David Koch, Kepler Mission, NASA Ames Research Center, California, USA

Prof. SONG Sang-yong, Seoul, South Korea

Judith V. Field, Dept. of History of Art, London, Great Britain

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Robert J. Malone, Ph.D., History of Science Society, University of Florida, Gainesville, USA

Prof. Eberhard Knobloch, European Society for the History of Science (ESHS), Institut für Philosophie,

Wissenschaftstheorie, Wissenschafts- und Technikgeschichte, Technische Universität Berlin, Germany

Dr. Gabriele Schonherr, Astrophysikalisches Institut, Potsdam, Germany

RNDr. Jaroslav Folta, CSc., Prague, Czech Republic

### Conference patronage:

Czech Academy of Sciences, Charles University, Prague City Hall, Ministry of Culture of the Czech Republic

### Preliminary programme:

Monday, August 24

10:00-12:30 Opening Ceremony in Karolinum (open to the public, welcome speeches by the Chancellor, Mayor of Prague, mayors or representatives of the Kepler towns; possibility of registration)

15:00-18:00 Registration

Session 1

19:00 Formal opening of the astronomical exposition of National Technical Museum

Tuesday, August 25

9:00-13:00 Session 2

14:00-18:00 Session 3, optional trip to Benátky nad Jizerou

19:00 Concert

Wednesday, August 26

9:00-12:00 Session 4

14:00-17:00 Session 5

19:00 Conference dinner in Letenský zámek

<http://www.letenskyzamecek.cz/>

Thursday, August 27

Trip to Linz

“Prague Astronomical” – city walk

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